AKAI

SERVICE MANUAL

STEREO CASSETTE DECK

MODEL **HX-3**

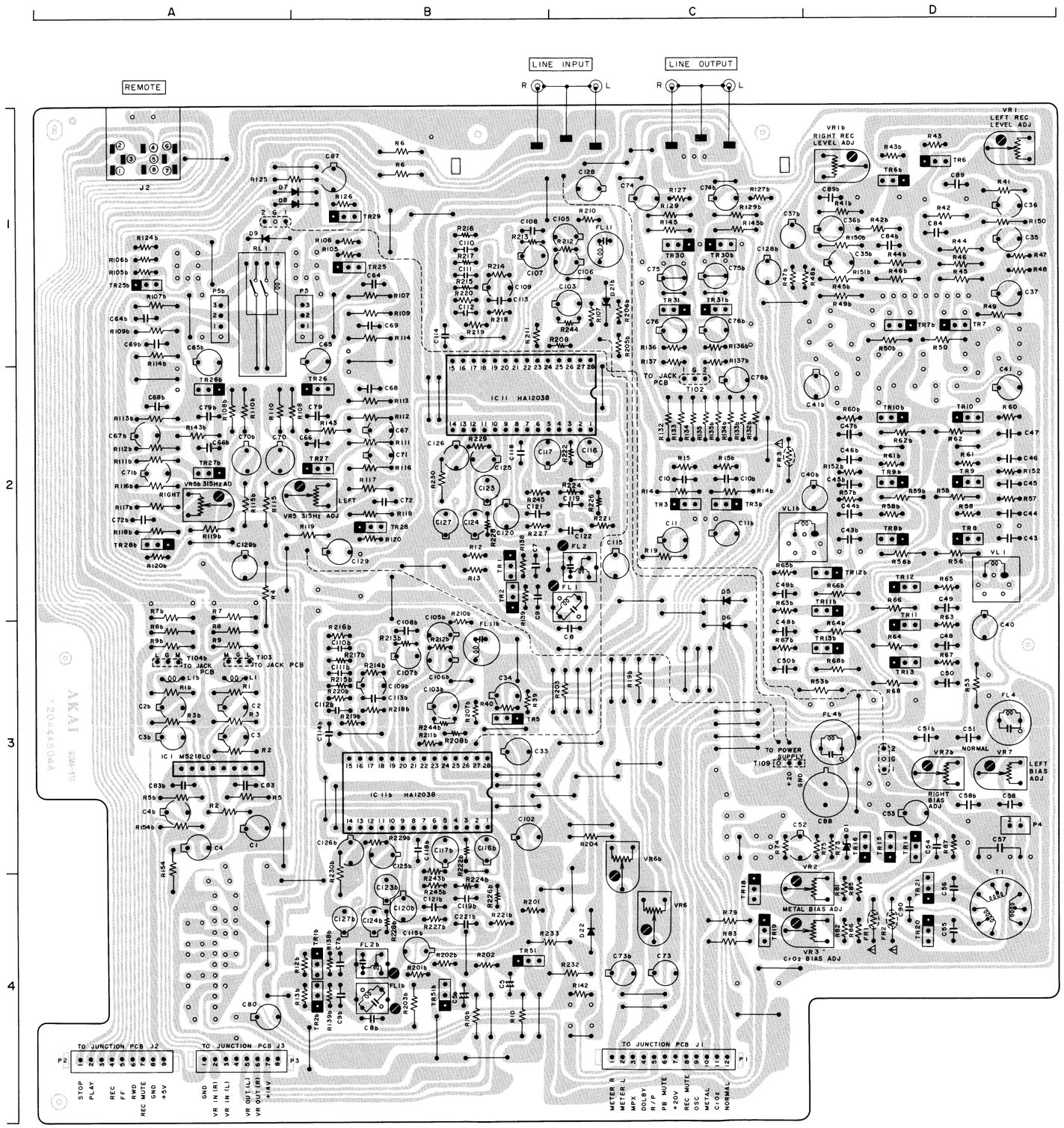
PARTS LIST

3. PRE AMP P.C BOARD BLOCK

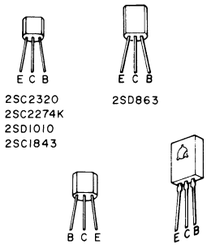
REF. NO.	PARTS NO.	DESCRIPTION
3-1	BA-T2044A020A	PC PRE AMP BLK HX-3
3-IC1A	EI-337228	IC M5218LO
3-IC11A	EI-349196	IC HA12058 (IC58)
3-IC11A	EI-336983	IC HA12038 (IC38)
3-TR1A,2A	ET-328578	TR 2SC2320 E,F
3-TR3A	ET-332421	TR 2SD1010 R,S
3-TR5A to 13A	ET-201580	⚠ TR 2SD894
3-TR14A	ET-318239	⚠ TR 2SD863 E,F
3-TR15A	ET-200505	⚠ TR 2SC2603 E,F
3-TR16A	ET-200505	TR 2SC2603 E,F
3-TR18A,19A	ET-200505	TR 2SC2603 E,F
3-TR20A,21A	ET-310833	⚠ TR 2SC2274K E
3-TR25A	ET-328868	TR 2SD1012-V G,H
3-TR26A	ET-337258	TR 2SC1843 E,F
3-TR27A	ET-344275	TR 2SC2320L F,G
3-TR28A	ET-328578	TR 2SC2320 E,F
3-TR29A	ET-200985	TR 2SC2603 F,G
3-TR30A	ET-200558	TR 2SA1115 E,F
3-TR31A	ET-200558	TR 2SA1115 E,F
3-TR51A	ET-330607	TR 2SC1312S F,G
3-D1A	ED-346286	D ZENER V HZ3C-3S7
3-D5A,6A	ED-301911	D SILICON H DS448
3-D7A	ED-308953	D GERMA H 1K34A-LH S12
3-D8A,9A	ED-301911	D SILICON H DS448
3-D21A	ED-350800	D ZENER H 05Z4.7 Y,Z
3-D22A	ED-301911	D SILICON H DS448
3-VR1A	EV-315414	R S-FIX H D8 3P 203
3-VR2A	EV-322413	R S-FIX H D8 3P 302
3-VR3A	EV-315416	R S-FIX H D8 3P 103
3-VR5A,6A	EV-315413	R S-FIX H D8 3P 503
3-VR7A	EV-336785	R S-FIX H TM8KV2-1S 3P 0.50W 104
3-RL1A	EQ-337067	RELAY LEAD LAB2NS 2NO 18V
3-L2A	EO-347162	COIL FIX 1 L-8 103J
3-T1A	EO-349043	COIL OSC1 0365-056A 100kHz
3-FL1A	ER-337696	FILTER DB 201AK-006 19kHz
3-FL2A	EH-337695	FILTER DB 201AK-005 100kHz
3-FL4A	EO-315758	COIL TUN 1 100S-431 100.00kHz
3-FL11A	EO-337044	COIL TUN 1 102AK 005
3-J1A	EJ-347664	PIN J YKC21-5053 P 4P
3-J2A	EJ-346076	DIN J TCS4690-01-1111 P 8P
3-FR1A,2A	ER-307565	⚠ R FUSE ERD2FC S10 1/4W 6R8J
3-FR3A	ER-318248	⚠ R FUSE ERD2FC S10 1/4W 47ROG
3-R4A	ER-326616	R OMF H SNP FS 1W 681J
3-C57A	EC-345817	C PP V F10 APH 272J 630DC
3-C64A	EC-314995	C STY V SNP CQFS 331J 50DC
3-C69A	EC-314990	C STY V SNP CQFS 101J 50DC
3-C79A	EC-321482	C STY V F05 500 271J 50DC
3-C90A	EC-338429	C PP V F03 EPS 103J 100DC
3-J1B	EJ-347631	PHONE J HLJ0527-3034
3-J2B	EJ-343380	PHONE J 3P HLJ0541-040 6.3

COMPOSITION OF VARIOUS P.C BOARDS

PRE AMP P.C BOARD T2044A504A (HA12038)



PRE AMP (2) PCB T2044A504A



LOCATION OF COMPONENTS

IC
- IC 1 ..... A3 A3
- IC11 ..... B2 B2
- IC11b B3 B3

CONNECTOR
- P1 ..... C4 C4
- P2 ..... A4 A4
- P3 ..... A4 A4
- P4 ..... D3
- P5, 5b A1

TR
- TR 1 ..... B2
- TR 1b B4
- TR 2 ..... B2
- TR 2b B4
- TR 3, 3b C2
- TR 5 ..... B3
- TR 6, 6b D1
- TR 7, 7b D1
- TR 8 to 12 ..... D2
- TR 8b to 12b D2
- TR13, 13b D3
- TR14 to 16 ..... D3
- TR18, 19 ..... C4
- TR20, 21 ..... D4
- TR25 ..... B1
- TR25b A1
- TR26 to 28 ..... B2
- TR26b to 28b A2
- TR29 ..... B1
- TR30, 31 ..... C1
- TR30b, 31b C1
- TR51, 51b B4

- TR1, 2, 7 to 13, 28 ..... 2SC2320(E,F,G)
- TR3 ..... 2SD1010 (R,S)
- TR5 ..... 2SD894
- TR6, 25 ..... 2SD1012 (G,H)
- TR14 ..... 2SD863 (E,F)
- TR15, 16, 18, 19 ..... 2SC2603 (E, F)
- TR20, 21 ..... 2SC2274K (E)
- TR26 ..... 2SC1843 (E, F)
- TR27 ..... 2SC2320L (F, G)
- TR29 ..... 2SC2603 (F, G)
- TR30, 31 ..... 2SA1115 (E, F)
- TR51 ..... 2SC1312S (F, G)

= PNP TRANSISTOR

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

PRE AMP P.C BOARD T2044A504A (HA12058)

LOCATION OF COMPONENTS

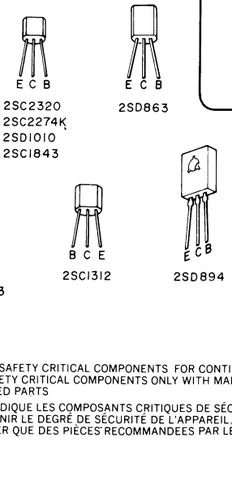
IC
IC I A3 A3
IC II B2 B2
IC IIb B3 B3

CONNECTOR
P I C4 C4
P 2 ..... A4 A4
P 3 ..... A4 A4
P 4 ..... D3
P 5, 5b ..... A I

TR
TR I B2
TR Ib B4
TR 2 ..... B2
TR 2b B4
TR 3, 3b C2
TR 5 ..... B3
TR 6, 6b ..... D I
TR 7, 7b ..... D I
TR 8 to I2 ..... D2
TR 8b to I2b D2
TR I3, I3b D3
TR I4 to I6 ..... D3
TR I8, I9 ..... C4
TR 20, 2I D4
TR 25 ..... B I
TR 25b ..... A I
TR 26 to 28 ..... B2
TR 26b to 28b A2
TR 29 ..... B I
TR 30, 3I ..... C I
TR 30b, 3Ib ..... C I
TR 5I, 5Ib B4

TR I, 2, 7 to I3, 28 ..... 2SC2320(E,F,G)
TR 3 ..... 2SD1010(R,S)
TR 5 ..... 2SD894
TR 6, 25 ..... 2SD1012 (G,H)
TR I4 ..... 2SD863 (E,F)
TR I5, I6, I8, I9 ..... 2SC2603 (E, F)
TR 20, 2I ..... 2SC2274K (E)
TR 26 ..... 2SC1843 (E, F)
TR 27 ..... 2SC2320L (F, G)
TR 29 ..... 2SC2603 (F, G)
TR 30, 3I ..... 2SA1115 (E, F)
TR 5I ..... 2SC1312S (F, G)

▭ = PNP TRANSISTOR



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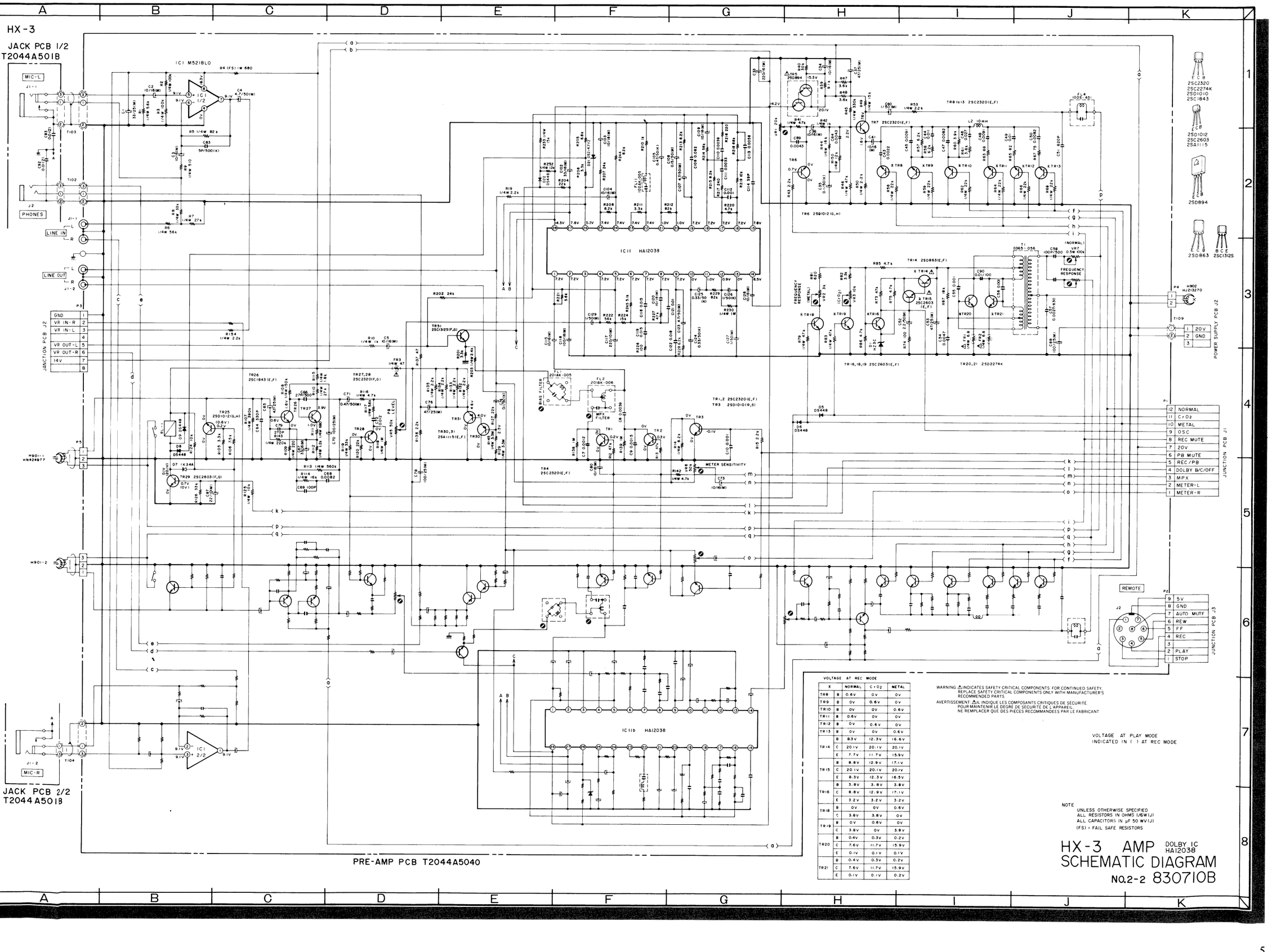
PRE AMP (2) PCB T2044A504A

HX-3

JACK PCB 1/2
T2044A5018



VOLTAGE AT REC MODE

X		NORMAL	CrO2	METAL
TR8	B	0.6V	0V	0V
TR9	B	0V	0.6V	0V
TR10	B	0V	0V	0.6V
TR11	B	0.6V	0V	0V
TR12	B	0V	0.6V	0V
TR13	B	0V	0V	0.6V
TR14	B	8.3V	12.3V	16.6V
	C	20.1V	20.1V	20.1V
	E	7.7V	11.7V	15.9V
TR15	B	8.8V	12.9V	17.1V
	C	20.1V	20.1V	20.1V
	E	8.3V	12.3V	16.5V
TR16	B	3.8V	3.8V	3.8V
	C	8.8V	12.9V	17.1V
	E	3.2V	3.2V	3.2V
TR18	B	0V	0V	0.6V
	C	3.8V	3.8V	0V
TR19	B	0V	0.6V	0V
	C	3.8V	0V	3.8V
TR20	B	0.4V	0.3V	0.2V
	C	7.6V	11.7V	15.9V
	E	0.1V	0.1V	0.1V
TR21	B	0.4V	0.3V	0.2V
	C	7.6V	11.7V	15.9V
	E	0.1V	0.1V	0.2V

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AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

VOLTAGE AT PLAY MODE
INDICATED IN ( ) AT REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50 WV (J)
(FS) = FAIL SAFE RESISTORS

HX-3 AMP SCHEMATIC DIAGRAM

DOLBY IC HA12038

NO.2-2 8307108

HX-3

JACK PCB 1/2
T2044A501B

IC1 M5218L0

MIC-L

PHONES

LINE IN

LINE OUT

JUNCTION PCB J2

GND	1
VR IN-R	2
VR IN-L	3
	4
VR OUT-L	5
VR OUT-R	6
14 V	7
	8

IC11 HAI2058

IC11b HAI2058

TR1,2 2SC2320(E,F)
TR3 2SD1010(R,S)
TR4 2SC2320(E,F)
TR6 2SD1012(G,H)
TR7 2SC2320(E,F)
TR8 to 13 2SC2320(E,F)
TR14 2SD863(E,F)
TR15 2SC2603(E,F)
TR16,18,19 2SC2603(E,F)
TR20,21 2SD2274K
TR25 2SD1012(G,H)
TR26 2SC1843(E,F)
TR27,28 2SC2320(F,G)
TR29 2SC2603(F,G)
TR30,31 2SA1115(E,F)
TR51 2SD1012(F,G)

POWER SUPPLY PCB J2

1	20V
2	GND
3	

JUNCTION PCB J1

12	NORMAL
11	CrO2
10	METAL
9	OSC
8	REC MUTE
7	20V
6	PB MUTE
5	REC/PB
4	DOLBY B/C/OFF
3	MPX
2	METER-L
1	METER-R

REMOTE

JUNCTION PCB J3

9	5V
8	GND
7	AUTO MUTE
6	REW
5	FF
4	REC
3	
2	PLAY
1	STOP

JACK PCB 2/2
T2044A501B

MIC-R

PRE-AMP PCB T2044A5040

VOLTAGE AT REC MODE

Tr.		NORMAL	CrO2	METAL
TR6	B	0.6V	0V	0V
TR9	B	0V	0.6V	0V
TR10	B	0V	0V	0.6V
TR11	B	0.6V	0V	0V
TR12	B	0V	0.6V	0V
TR13	B	0V	0V	0.6V
TR14	B	8.3V	12.3V	16.6V
	C	20.1V	20.1V	20.1V
	E	7.7V	11.7V	15.9V
TR15	B	8.8V	12.9V	17.1V
	C	20.1V	20.1V	20.1V
	E	8.3V	12.3V	16.5V
TR16	B	3.8V	3.8V	3.8V
	C	8.8V	12.9V	17.1V
	E	3.2V	3.2V	3.2V
TR18	B	0V	0V	0.6V
	C	3.8V	3.8V	0V
TR19	B	0V	0.6V	0V
	C	3.8V	0V	3.8V
TR20	B	0.4V	0.3V	0.2V
	C	7.6V	11.7V	15.9V
	E	0.1V	0.1V	0.1V
TR21	B	0.4V	0.3V	0.2V
	C	7.6V	11.7V	15.9V
	E	0.1V	0.1V	0.2V

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VOLTAGE AT PLAY MODE
INDICATED IN ( ) AT REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50 WV (J)
(FS) : FAIL SAFE RESISTORS

HX-3 AMP SCHEMATIC DIAGRAM

DOLBY IC HAI2058

NO.2-2 830710B

Printed Date: May 25, 1984
Printed in Japan